

# **G.SHDSL.bis Bridge Router**

GRT-501 / GRT-504

Quick Installation Guide

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## **Overview**

Thank you for purchasing the Planet GRT-501 or GRT-504. The GRT-501 and GRT-504 are the G.SHDSL.bis routers that comply with ITU-T G.991.2 standard and provide affordable, flexible, efficient Internet access solution for SOHO and Small Medium Business environment. The GRT-501 and GRT-504 support business-class, multi-range from 192 Kbps to 5.7 Mbps (2-wire) and 384 Kbps to 11.4 Mbps (4-wire) symmetric data rates by using existing telephone copper wires.

This quick installation guide includes the following sections:

1. Package Content
2. Hardware Description: Hardware outlook and panel description
3. Quick Installation: Quick setup through Web browser
4. Further Configuration

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## **1. Package Content**

### **GRT-501 / GRT-504**

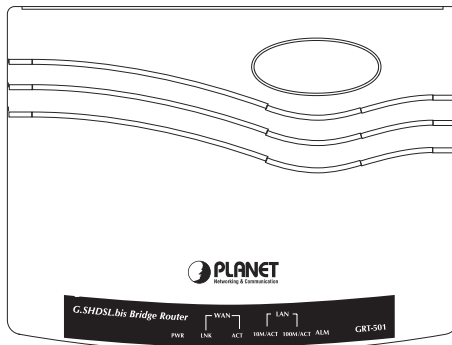
- G.SHDSL.bis Bridge Router x 1
- Power Adapter x 1
- Quick Installation Guide x 1
- User's manual CD x 1
- Console Cable x 1
- RJ-45 to RJ-11 Cable x 1

If any of the above items are missing or damaged, please contact your local dealer for support.

## 2. Hardware Description

### GRT-501

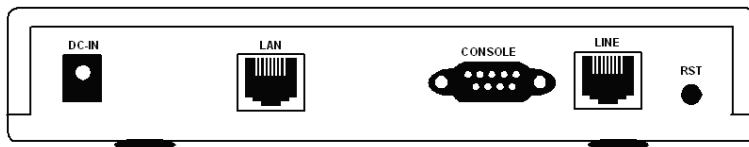
#### ► Front Panel



#### ► LED / Port Definition

PWR	Green	ON	The power adaptor is connected to GRT-501	
WAN	LNK	Green	SHDSL.bis connection is established	
		Green	Blink	SHDSL.bis is handshaking
LAN	10M/ ACT	Green	ON	LAN Port connect with 10M Ethernet link
		Green	Blink	LAN Port Transmit or receive data in 10M mode
	100M/ ACT	Green	ON	LAN Port connect with 100M Ethernet link
		Green	Blink	LAN Port Transmit or receive data in 100M mode
ALM	Red	ON	SHDSL.bis line connection is dropped	
	Red	Blink	SHDSL.bis self test	

#### ► Rear View

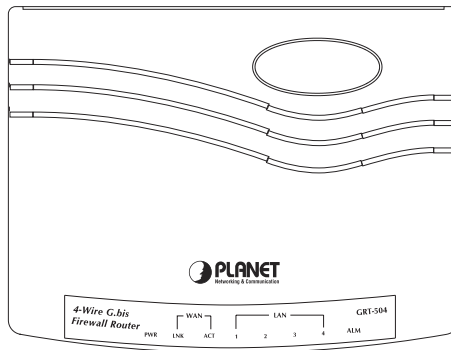


## ► Port Definition

DC-IN	Power connector with 9V DC 1.0A
LAN	Ethernet 10/100BaseT for LAN port (RJ-45)
CONSOLE	RS-232C (DB9) for system configuration and maintenance
LINE	SHDSL.bis interface for WAN Port
RST	The reset button, the router restore the default settings when press this button until reboot.

## GRT-504

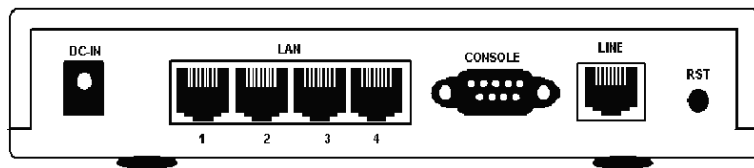
### ► Front Panel



### ► LED / Port Definition

PWR		Green	ON	The power adaptor is connected to GRT-504
WAN	LNK	Green	ON	G.SHDSL.bis connection is established
		Green	Blink	G.SHDSL.bis is handshaking
	ACT	Green	Blink	Transmit data or receive data over G.SHDSL.bis link
LAN	1/2/3/4	Green	ON	LAN Port connect with Ethernet link
	1/2/3/4	Green	Blink	LAN Port Transmit or receive data
ALM		Red	ON	G.SHDSL.bis line connection is dropped
		Red	Blink	G.SHDSL.bis self test

## ► Rear View



## ► Port Definition

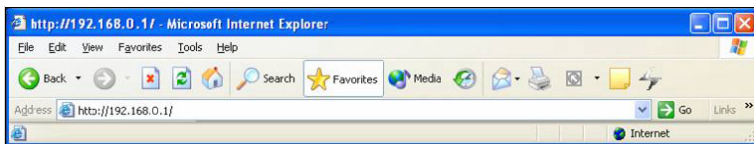
DC-IN	Power connector with 9V DC 1.0A
LAN (1/2/3/4)	Ethernet 10/100Base-TX for LAN port (RJ-45)
CONSOLE	RS- 232C (DB9) for system configuration and maintenance
LINE	G.SHDSL.bis interface for WAN Port
RST	The reset button, the router restore the default settings when press this button until reboot.

### 3. Quick Installation

Before proceeding any further, please make sure correct network cable is used for connecting the LAN port from your computer to GRT-501 or GRT-504. The LAN LNK indicator on the front panel shall light if a correct cable is used.

By default, the GRT-501 or GRT-504 is shipped with its DHCP Server function enabled. This means the client computers on the LAN network including the Administrator PC can set their TCP/IP settings to automatically obtain an IP address from the GRT-501 or GRT-504. Starting your web browser and connecting to the management IP of GRT-501 or GRT-504, wait for the login screen appears. When you see the login screen, enter the correct user name and password to login the GRT-501 or GRT-504.

- Open web browser and type **http://192.168.0.1** in the browser's address box. This number is the default IP address for this device. Press Enter.



- A user name and password prompt will appear. The default user name and password are **"root"**. Click **OK** button and you will login the GRT-501 or GRT-504 for management.



Note

The factory default management IP and subnet mask of GRT-501 or GRT-504 is 192.168.0.1 and 255.255.255.0 respectively. And the default user name and password is **"root"**.

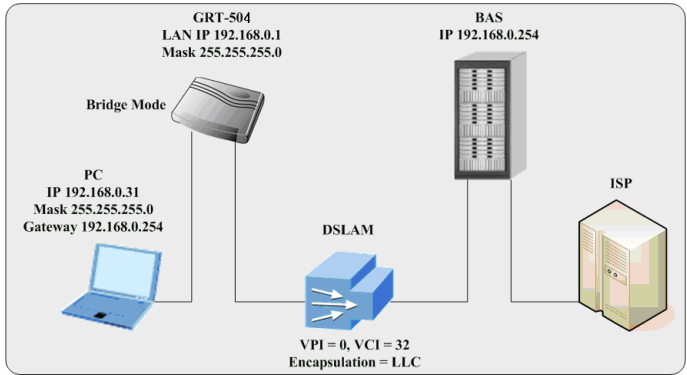


This chapter provides quickly setup procedure for four major connection modes:

- Section 3.1: Bridge Mode
- Section 3.2: Routing Mode for PPPoA and PPPoE
- Section 3.3: Routing Mode for IPoA or EoA
- Section 3.4: LAN to LAN Bridge Mode

Please verify your connection mode and check the corresponding section to quickly install your GRT-501 or GRT-504.

### 3.1 Bridge Mode

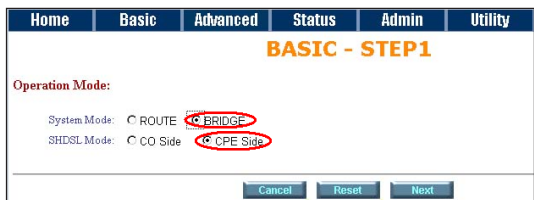


#### Web UI Configuration

##### Step 1.

Click **Basic** on the left menu, the BASIC setting screen will display. And then select **Bridge** and **CPE Side** to setup Bridge mode of the Router and then click **Next** for the next setting.

This product can be setup as two G.SHDSL.bis working mode: **CO** (Central Office) and **CPE** (Customer Premises Equipment). For connection with DSLAM, the G.SHDSL.bis working mode is **CPE**.



## Step 2.

Enter Parameters in **BASIC – STEP2:**

### LAN

IP: **192.168.0.1**

Subnet Mask: **255.255.255.0**

Gateway: **192.168.0.254** (The Gateway IP is provided by ISP)

Host Name: **SOHO**

Some of the ISP requires the **Host Name** as identification. You may check with ISP to see if your Internet service has been configured with a host name. In most cases, this field can be ignored.

### WAN1

VPI: **0**

VCI: **32**

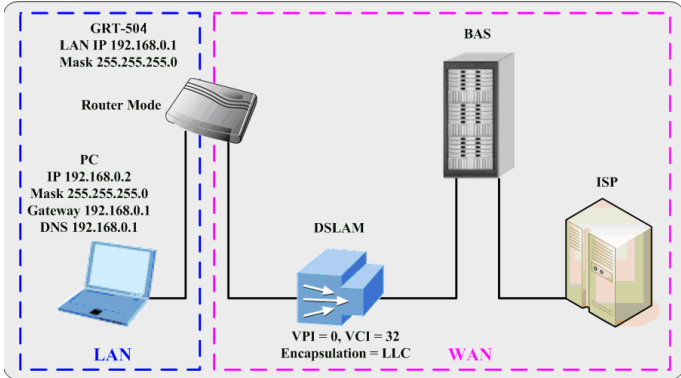
Click LLC, and then Click **Next** for next setting.

The screenshot shows a web-based configuration interface for a router. At the top, there are tabs for 'Home', 'Basic', 'Advanced', 'Status', 'Admin', and 'Utility'. The 'Basic' tab is selected, and the page title is 'BASIC - STEP2'. Below the title, there are two sections: 'LAN:' and 'WAN1:'. The 'LAN:' section contains four input fields: 'IP Address' (192, 168, 0, 1), 'Subnet Mask' (255, 255, 255, 0), 'Gateway' (192, 168, 0, 254), and 'Host Name' (SOHO). The 'WAN1:' section contains three input fields: 'VPI' (0), 'VCI' (32), and 'Encap:' (VC-mux and LLC). The 'Encap:' field has radio buttons for 'VC-mux' and 'LLC', with 'LLC' selected. At the bottom of the form, there are four buttons: 'Back', 'Cancel', 'Reset', and 'Next'.

## Step 3.

The screen will prompt the new configured parameters. Check the parameters and click **Restart**. The router will reboot with the new setting or **Continue** to configure another parameters.

## 3.2 Routing Mode for PPPoA and PPPoE with IP Sharing



### Web UI Configuration

#### Step 1.

For Route Mode with Point-to-Point Protocol over ATM and Ethernet, follow the following setting. First, select **ROUTE** and **CPE Side**, and then click **Next** for setting others parameters.

Home	Basic	Advanced	Status	Admin	Utility
<b>BASIC - STEP1</b>					
<b>Operation Mode:</b>					
System Mode: <input checked="" type="radio"/> ROUTE <input type="radio"/> BRIDGE					
SHDSL Mode: <input type="radio"/> CO Side <input checked="" type="radio"/> CPE Side					
<input type="button" value="Cancel"/> <input type="button" value="Reset"/> <input type="button" value="Next"/>					

#### Step 2.

The embedded DHCP server assigns network configuration information at most 253 users accessing the Internet in the same time.

Click **Next** for next setting.

Home	Basic	Advanced	Status	Admin	Utility
<b>BASIC - STEP2</b>					
<b>LAN:</b>					
IP Type: <input checked="" type="radio"/> Fixed <input type="radio"/> Dynamic(DHCP Client)					
IP Address: <input type="text" value="192"/> . <input type="text" value="168"/> . <input type="text" value="0"/> . <input type="text" value="1"/>					
Subnet Mask: <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="255"/> . <input type="text" value="0"/>					
Host Name: <input type="text" value="SOHO"/>					
Trigger DHCP Service: <input type="radio"/> Disable <input checked="" type="radio"/> Server <input type="radio"/> Relay					
<input type="button" value="Back"/> <input type="button" value="Cancel"/> <input type="button" value="Reset"/> <input type="button" value="Next"/>					

### Step 3.

Assign the IP pool for your DHCP server. Click **Next**.

### Step 4.

Enter the Parameters in **BASIC – STEP4**

**VPI: 0**

**VCI: 32**

**AA5 Encapsulation: LLC**

**Protocol: PPPoA + NAT or PPPoE + NAT**

Click **Next** to setup the ISP setting.

The screenshot shows the 'BASIC - STEP4' configuration page. The 'WAN1:' section contains the following fields: VPI: 0, VCI: 32, AAL5 Encap: C VC-mux LLC, and Protocol: PPPoA+NAT. The 'Next' button is highlighted in blue.

### Step 5.

1. Enter user name provided by ISP: **test**

2. Enter Password provided by ISP: **test**

3. Re-enter Password for confirmation: **test**

The user name and password provided by your ISP.

4. **Idle Time: 10**

If you want your Internet connection to remain on at all time, enter 0 in the Idle Time field.

5. **IP Type: Dynamic**

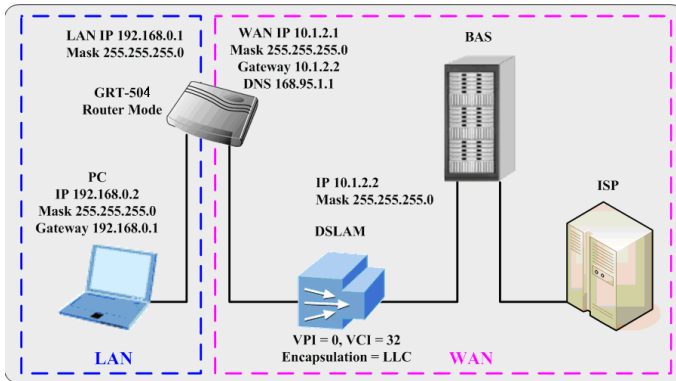
6. Click **Next**.

The screenshot shows the 'BASIC - STEP4' configuration page. The 'ISP1:' section contains the following fields: Username: test, Password: \*\*\*\*, Password Confirm: \*\*\*\*, Idle Time: 10 minutes, IP Type: Dynamic, and IP Address: 192.168.1.1. The 'Next' button is highlighted in blue.

### Step 6.

The screen will prompt the new configured parameters. Check the parameters and click **Restart**. The router will reboot with the new setting or **Continue** to configure another parameters.

## 3.3 Routing Mode for IPoA or EoA



## Web UI Configuration

### Step 1.

For Route Mode with IPoA and EoA, follow the following setting. First, select **ROUTE** and **CPE Side**, and then click **Next** for setting others parameters.

Home	Basic	Advanced	Status	Admin	Utility
<b>BASIC - STEP1</b>					
<b>Operation Mode:</b>					
System Mode: <input checked="" type="radio"/> ROUTE <input type="radio"/> BRIDGE					
SHDSL Mode: <input type="radio"/> CO Side <input checked="" type="radio"/> CPE Side					
<input type="button" value="Cancel"/> <input type="button" value="Reset"/> <input type="button" value="Next"/>					

## Step 2.

The embedded DHCP server assigns network configuration information at most 253 users accessing the Internet in the same time.

Click **Next** for next setting.

The screenshot shows the 'BASIC - STEP2' configuration page for LAN settings. The page has a navigation bar with tabs: Home, Basic, Advanced, Status, Admin, and Utility. The title is 'BASIC - STEP2'. Under the 'LAN:' section, there are several fields and options:

- IP Type:  Fixed  Dynamic(DHCP Client)
- IP Address: [192] . [168] . [0] . [1]
- Subnet Mask: [255] . [255] . [255] . [0]
- Host Name: [SOHO]
- Trigger DHCP Service:  Disable  Server  Relay

At the bottom, there are four buttons: Back, Cancel, Reset, and Next.

## Step 3.

Assign the IP pool for your DHCP server. Click **Next**.

## Step 4.

Enter Parameters in **BASIC – STEP4**

Wan Parameters;

**VPI: 0**

**VCI: 32**

**AAL5 Encapsulation: LLC**

**Protocol: IPoA , EoA , IPoA + NAT or EoA + NAT**

Click **Next** to setup the IP parameters.

The screenshot shows the 'BASIC - STEP4' configuration page for WAN1 settings. The page has a navigation bar with tabs: Home, Basic, Advanced, Status, Admin, and Utility. The title is 'BASIC - STEP4'. Under the 'WAN1:' section, there are several fields and options:

- VPI: [0]
- VCI: [32]
- AAL5 Encap:  VC-mux  LLC
- Protocol: [IPoA] (dropdown menu is open showing options: IPoA, IPoA+NAT, EoA, EoA+NAT, PPPoA+NAT, PPPoE+NAT)

At the bottom, there are four buttons: Back, Cancel, Reset, and Next.

### **Step 5.**

Enter Parameters in **WAN** setting.

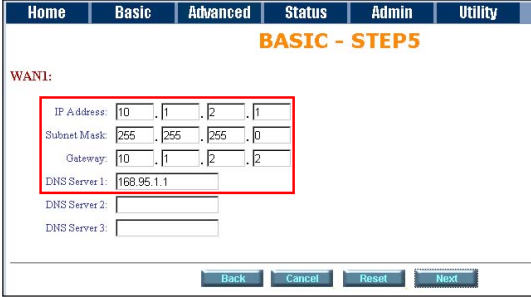
1. **IP Address:** **10.1.2.1**
2. **Subnet mask:** **255.255.255.0**
3. **Gateway:** **10.1.2.2**

Your ISP will provide above information to you.

4. **DNS Server 1:** **168.95.1.1**

Your ISP will provide at least one DNS Server IP address.

5. Click **Next**.

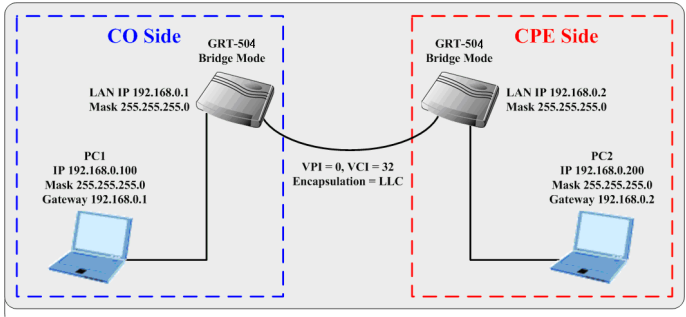


The screenshot shows a web-based configuration interface with a navigation bar at the top containing tabs: Home, Basic, Advanced, Status, Admin, and Utility. The main heading is "BASIC - STEPS". Below this, the section is labeled "WAN:". There are four rows of input fields: "IP Address" with values 10, 1, 2, 1; "Subnet Mask" with values 255, 255, 255, 0; "Gateway" with values 10, 1, 2, 2; and "DNS Server 1" with the value 168.95.1.1. The fields for IP Address, Subnet Mask, and Gateway are enclosed in a red rectangular box. Below these fields are three empty input boxes for "DNS Server 2" and "DNS Server 3". At the bottom of the form are four buttons: "Back", "Cancel", "Reset", and "Next".

### **Step 6.**

The screen will prompt the new configured parameters. Check the parameters and click **Restart**. The router will reboot with the new setting or Continue to configure another parameters.

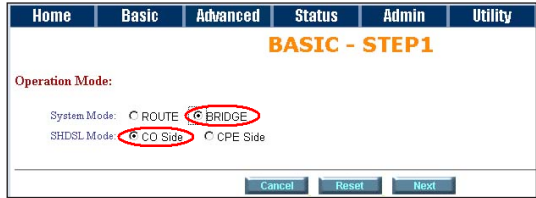
### 3.4 LAN-to-LAN Connection with Bridge Mode



#### Web UI Configuration CO side

##### Step 1.

Click **Bridge and CO Side** to setup Bridge mode of the Router and then click **Next**.





## Step 2.

Enter **LAN** Parameters

1. **IP:** 192.168.0.1
2. **Subnet Mask:** 255.255.255.0
3. **Gateway:** 192.168.0.2

**Host Name:** SOHO

Enter **WAN** Parameters

1. **VPI:** 0
2. **VCI:** 32
3. **Encapsulation:** LLC
4. Click **Next**

The screenshot shows a web-based configuration interface for a router. At the top, there are navigation tabs: Home, Basic, Advanced, Status, Admin, and Utility. The current page is titled "BASIC - STEP 2". Under the "LAN:" section, there are input fields for IP Address (192, 168, 0, 1), Subnet Mask (255, 255, 255, 0), Gateway (192, 168, 0, 2), and Host Name (SOHO). Under the "WAN:" section, there are input fields for VPI (0), VCI (32), and Encapsulation (VC-mux and LLC, with LLC selected). At the bottom, there are buttons for Back, Cancel, Reset, and Next.

The screen will prompt the new configured parameters. Check the parameters and Click Restart The router will reboot with the new setting.

## CPE side

### Step 1.

Click **Bridge and CPE Side** to setup Bridge mode of the Router and then click **Next**.

The screenshot shows a web-based configuration interface for a router. At the top, there are navigation tabs: Home, Basic, Advanced, Status, Admin, and Utility. The current page is titled "BASIC - STEP 1". Under the "Operation Mode:" section, there are radio buttons for System Mode (ROUTE, BRIDGE) and SHDSL Mode (CO Side, CPE Side). The BRIDGE and CPE Side options are selected and circled in red. At the bottom, there are buttons for Cancel, Reset, and Next.

## Step 2.

Enter **LAN** Parameters

1. **IP:** 192.168.0.2
2. **Subnet Mask:** 255.255.255.0
3. **Gateway:** 192.168.0.1

**Host Name:** SOHO

Enter **WAN** Parameters

1. **VPI:** 0
2. **VCI:** 32
3. **Encapsulation:** LLC
4. Click **Next**

The screenshot shows a web-based configuration interface for a router. At the top, there are tabs for 'Home', 'Basic', 'Advanced', 'Status', 'Admin', and 'Utility'. The 'Basic' tab is selected, and the page title is 'BASIC - STEP2'. Below the tabs, there are two sections: 'LAN:' and 'WAN:'. The 'LAN:' section contains four input fields: 'IP Address' (192, 168, 0, 2), 'Subnet Mask' (255, 255, 255, 0), 'Gateway' (192, 168, 0, 1), and 'Host Name' (SOHO). The 'WAN:' section contains three input fields: 'VPI' (0), 'VCI' (32), and 'Encap:' (VC-mux, LLC). At the bottom of the form, there are four buttons: 'Back', 'Cancel', 'Reset', and 'Next'.

The screen will prompt the new configured parameters. Check the parameters and Click Restart The router will reboot with the new setting.

After rebooting, the GRT-501 or GRT-504 will establish a connection and the PC1 and PC2 can access to each other.

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## ***4. Further configuration***

The above steps introduce simple configurations for GRT-501 or GRT-504. For further configurations such as DMZ, Virtual Server, or VLAN functions, please refer to the user's manual in the CD. If you have other questions, please contact the local **dealer** or **distributor** where you purchased this product.

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